AMENDMENTS TO THE CLAIMS

The claims relating to the above-captioned patent application, as amended herein and with the status thereof, are as follows:

1. (previously presented) A method for making a disk drive, wherein said disk drive comprises a first disk and a first head, wherein said method comprises the steps of:

positioning a push-pin assembly of a servo writer relative to said disk drive, wherein said push-pin assembly of said servo writer comprises:

(a) a contact pin comprising a shaft and a contact head, wherein said contact head comprises an actuator arm facing surface engageable with a disk drive actuator arm assembly of said disk drive;

(b) a body comprising a contact pin receptacle, wherein a first portion of said shaft of said contact pin is disposed in said contact pin receptacle such that said body is disposed about a perimeter of said first portion of said shaft of said contact pin, and wherein said contact head is disposed beyond an end of said body; and

(c) a vibration damper disposed between at least a portion of said first portion of said shaft of said contact pin and said body, wherein an entirety of said shaft of said contact pin and said body are disposed in spaced relation;

moving said push-pin assembly of said servo writer relative to said first disk of said disk drive and while said actuator arm facing surface of said push-pin assembly of said servo writer is engaged with said disk drive actuator arm assembly of said disk drive; and

moving said first head of said disk drive relative to said first disk of said disk drive during said moving said push-pin assembly step, wherein a servo writing operation comprises said positioning step, said moving said push-pin assembly step, and said moving said first head step.

2. (previously presented) A method, as claimed in Claim 1, wherein said shaft of said contact pin further comprises a protrusion disposed toward an end of said shaft opposite said contact head, wherein said vibration damper is positioned about a portion of said shaft which is disposed between said protrusion and said contact head.

3. (previously presented) A method, as claimed in Claim 2, wherein said protrusion is annular.

4. (previously presented) A method, as claimed in Claim 2, wherein said protrusion comprises a plurality of radially spaced protrusion segments.

5. (previously presented) A method, as claimed in Claim 2, wherein said protrusion engages an end of said vibration damper.

6. (previously presented) A method, as claimed in Claim 1, wherein said shaft further comprises a protrusion, wherein said protrusion is disposed between said contact head and said vibration damper.

7. (previously presented) A method, as claimed in Claim 6, wherein said protrusion interfaces with an end of said vibration damper, and is free from contact with said body.

8. (previously presented) A method, as claimed in Claim 6, wherein said protrusion comprises a plurality of radially spaced protrusion segments.

9. (previously presented) A method, as claimed in Claim 6, wherein said protrusion is annular.

10. (previously presented) A method, as claimed in Claim 1, wherein said contact pin receptacle of said body is substantially annular, wherein said first portion of said shaft of said contact pin is substantially cylindrical, and wherein said at least a portion of said first portion of said shaft of said contact pin is concentrically disposed in said contact pin receptacle of said body.

11. (previously presented) A method, as claimed in Claim 1, further comprising means for maintaining said contact pin in a set position along a longitudinal extent of said shaft of said contact pin and relative to said body.

12. (previously presented) A method, as claimed in Claim 1, wherein said vibration damper is annular.

13. (previously presented) A method, as claimed in Claim 1, wherein said vibration damper comprises a plurality of radially spaced vibration damper segments.

14. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 1, wherein said vibration damper is formed from a material selected from the group consisting of urethane materials, polyurethane materials, piezoelectric materials, and combinations thereof.

15. (previously presented) A method, as claimed in Claim 1, wherein a portion of said shaft of said contact pin extends beyond an end of said vibration damper within said contact pin receptacle.

16. (previously presented) A method, as claimed in Claim 1, wherein said contact pin receptacle comprises a first longitudinal receptacle section and a second longitudinal receptacle section, wherein said first longitudinal receptacle section has a larger effective diameter than said second longitudinal receptacle section such that a first spacing between a first wall of said first longitudinal receptacle section and said shaft is greater than a second spacing between a second wall of said second longitudinal receptacle section and said shaft.

17. (previously presented) A method, as claimed in Claim 16, wherein said vibration damper is disposed in said first longitudinal receptacle section, wherein a length of said vibration damper is less than a length of said first longitudinal receptacle section.

18. (previously presented) A method, as claimed in Claim 16, wherein said shaft extends within both said first and second longitudinal receptacle sections.

19. (previously presented) A method, as claimed in Claim 16, wherein said vibration damper comprises first and second longitudinally spaced vibration dampers, wherein said first vibration damper is disposed within said first longitudinal receptacle section, and wherein said second longitudinal receptacle section is disposed between said first longitudinal receptacle section and said second vibration damper.

20. (previously presented) A method, as claimed in Claim 1, wherein said vibration damper comprises first and second vibration dampers which are spaced along a longitudinal extent of said shaft of said contact pin.

21. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 20, wherein said first vibration damper has a modulus of elasticity which is less than, substantially equal to, or greater than a modulus of elasticity of said second vibration damper.

22. (previously presented) A method, as claimed in Claim 20, wherein said first vibration damper comprises a different material than that of said second vibration damper.

23. (previously presented) A method, as claimed in Claim 20, wherein said first vibration damper and said second vibration damper comprise the same material.

24. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 20, wherein at least one of said first vibration damper and said second vibration damper comprises a piezoelectric material.

25. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 24, wherein said push-pin assembly further comprises means for providing an electrical signal to said piezoelectric material to change at least one physical property of said piezoelectric material.

26. (previously presented) A method, as claimed in Claim 20, wherein said second vibration damper is disposed about and longitudinally extends beyond an end of said shaft opposite said contact head.

27. (currently amended) A method ~~push-pin assembly~~, as claimed in Claim 1, wherein said vibration damper is an electrical insulator.

28. (currently amended) A method ~~push-pin assembly~~, as claimed in Claim 27, wherein ~~said lower portion of~~ said shaft comprises a first conductor of a capacitive sensor, said body comprises a second conductor of said capacitive sensor, and a first open area comprises a dielectric of said capacitive sensor, wherein said first open area is devoid of said vibration damper and is defined between said ~~lower portion of~~ said shaft and said body.

29. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 1, wherein said push-pin assembly further comprises a means for monitoring a position of said shaft of said contact pin relative to said body.

30. (cancelled)

31. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 29, wherein said means for monitoring a position of said shaft comprises a capacitive sensor, wherein ~~said lower portion of~~ said shaft comprises a first conductor of said capacitive sensor, said body comprises a second conductor of said capacitive sensor, and a first open area comprises a dielectric of said capacitive sensor, wherein said first open area is devoid of said vibration damper and is defined between said ~~lower portion of said~~ shaft and said body, such that failure of said vibration damper results in said ~~lower portion of said~~ shaft being repositioned relative to said body, and thus causing a change in capacitance.

32. (previously presented) A method for making a disk drive, wherein said disk drive comprises a first disk and a first head, wherein said method comprises the steps of:

positioning a push-pin assembly of a servo writer relative to said disk drive, wherein said push-pin assembly of said servo writer comprises:

(a) a contact pin comprising a shaft and a contact head, wherein said contact head comprises an actuator arm facing surface engageable with a disk drive actuator arm assembly of said disk drive;

(b) a body comprising a receptacle wall defining a contact pin receptacle, wherein a first portion of said shaft of said contact pin is disposed in said contact pin receptacle such that at least part of said receptacle wall of said body is disposed about a perimeter of said first portion of said shaft of said contact pin, and wherein said contact head is disposed beyond an end of said body; and

(c) a vibration damper disposed between at least a first longitudinal segment of said first portion of said shaft of said contact pin and said receptacle wall of said body, wherein an open area separates a second longitudinal segment of said first portion of said shaft from said receptacle wall of said body;

moving said push-pin assembly of said servo writer relative to said first disk of said disk drive and while said actuator arm facing surface of said push-pin assembly of said servo writer is engaged with said disk drive actuator arm assembly of said disk drive; and

moving said first head of said disk drive relative to said first disk of said disk drive during said moving said push-pin assembly step, wherein a servo writing operation comprises said positioning step, said moving said push-pin assembly step, and said moving said first head step.

33. (previously presented) A method for making a disk drive, wherein said disk drive comprises a first disk and a first head, wherein said method comprises the steps of:

positioning a push-pin assembly of a servo writer relative to said disk drive, wherein said push-pin assembly of said servo writer comprises:

(a) a contact pin comprising:

(i) a contact head comprising an outer surface engageable with a disk drive actuator arm assembly of said disk drive, and

(ii) a shaft comprising a first protrusion spaced from said contact head;

(b) a body comprising a contact pin receptacle, wherein a first portion of said shaft of said contact pin is disposed in said contact pin receptacle such that said body is disposed about a perimeter of said first portion of said shaft of said contact pin, and

wherein said contact head is disposed beyond an end of said body; and

(c) a vibration damper disposed about a portion of said shaft located between said contact head and said first protrusion;

moving said push-pin assembly of said servo writer relative to said first disk of said disk drive and while said outer surface of said push-pin assembly of said servo writer is engaged with said disk drive actuator arm assembly of said disk drive; and

moving said first head of said disk drive relative to said first disk during said moving said push-pin assembly step, wherein a servo writing operation comprises said positioning step, said moving said push-pin assembly step, and said moving said first head step.

34. (previously presented) A method, as claimed in Claim 33, wherein said first protrusion of said shaft has an effective diameter larger than an effective diameter of said vibration damper.

35. (previously presented) A method, as claimed in Claim 33, wherein said first protrusion engages a first end surface of said vibration damper.

36. (previously presented) A method, as claimed in Claim 33, wherein said first protrusion comprises a plurality of radially spaced first protrusion segments.

37. (previously presented) A method, as claimed in Claim 33, wherein said first protrusion is annular.

38. (previously presented) A method, as claimed in Claim 33, wherein said first protrusion comprises means for maintaining said contact pin in a set position relative to said body.

39. (previously presented) A method, as claimed in Claim 33, wherein said shaft further comprises a second protrusion disposed between said contact head and said vibration damper.

40. (previously presented) A method, as claimed in Claim 39, wherein said second protrusion interfaces with an end of said vibration damper, and is free from contact with said body.

41. (previously presented) A method, as claimed in Claim 39, wherein said first protrusion interfaces with a first end of said vibration damper, and said second protrusion interfaces with a second end, opposite said first end, of said vibration damper, and wherein both said first and second protrusions are free from contact with said body.

42. (previously presented) A method, as claimed in Claim 39, wherein said second protrusion comprises a plurality of radially spaced second protrusion segments.

43. (previously presented) A method, as claimed in Claim 39, wherein said second protrusion is annular.

44. (previously presented) A method, as claimed in Claim 39, wherein said second protrusion comprises means for preventing contact between said contact head and said body.

45. (previously presented) A method for making a disk drive, wherein said disk drive comprises a first disk and a first head, wherein said method comprises the steps of:

positioning a push-pin assembly of a servo writer relative to said disk drive, wherein said push-pin assembly of said servo writer comprises:

(a) a contact pin comprising a shaft and a contact head, wherein said contact head comprises an actuator arm facing surface engageable with a disk drive actuator arm assembly of said disk drive;

(b) a body comprising a receptacle wall defining a contact pin receptacle, wherein a first portion of said shaft of said contact pin is disposed in said contact pin receptacle such that at least part of said receptacle wall of said body is disposed about a perimeter of said first portion of said shaft of said contact pin, and wherein said contact head is disposed beyond an end of said body; and

(c) first and second longitudinally spaced vibration dampers disposed between said first portion of said shaft of said contact pin and said receptacle wall of said body, wherein at least a portion of said shaft longitudinally oriented between said first and second vibration dampers is separated from said receptacle wall by an open area devoid of vibration dampers;

moving said push-pin assembly of said servo writer relative to said first disk of said disk drive and while said actuator arm facing surface of said push-pin assembly of said servo writer is engaged with said disk drive actuator arm assembly of said disk drive; and

moving said first head of said disk drive relative to said first disk of said disk drive during said moving said push-pin assembly step, wherein a servo writing operation

comprises said positioning step, said moving said push-pin assembly step, and said moving said first head step.

46. (cancelled)

47. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 45, wherein said first and second vibration dampers are electrical insulators.

48. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 47, wherein ~~said lower portion of~~ said shaft comprises a first conductor of a capacitive sensor, said receptacle wall of said body comprises a second conductor of said capacitive sensor, and said open area comprises a dielectric of said capacitive sensor.

49. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 45, wherein at least one of said first vibration damper and said second vibration damper is a piezoelectric material.

50. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 49, wherein said push-pin assembly further comprises means for providing an electrical signal to said piezoelectric material to change at least one physical property of said piezoelectric material.

51. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 45, wherein said body further comprises a fulcrum on said receptacle wall at a longitudinal position which is between said first and second vibration dampers.

52. (currently amended) A ~~push-pin assembly~~method, as claimed in Claim 45, wherein said push-pin assembly further comprises means for monitoring a position of said shaft of said contact pin relative to said receptacle wall of said body.

53. (previously presented)A method making a disk drive, wherein said disk drive comprises a first disk and a first head, wherein said method comprises the steps of:

positioning a push-pin assembly of a servo writer relative to said disk drive, wherein said push-pin assembly of said servo writer comprises:

(a) a contact pin comprising:

(i) a contact head comprising an outer surface engageable with a disk drive actuator arm assembly of said disk drive, and

(ii) a shaft comprising a protrusion;

(b) a body comprising a contact pin receptacle, wherein a first portion of said shaft of said contact pin is disposed in said contact pin receptacle such that said body is disposed about a perimeter of said first portion of said shaft of said contact pin, and wherein said contact head is disposed beyond an end of said body; and

(c) a vibration damper disposed about a portion of said shaft, wherein said protrusion is located between said contact head and said vibration damper;

moving said push-pin assembly of said servo writer relative to said first disk of said

disk drive and while said outer surface of said push-pin assembly of said servo writer is engaged with said disk drive actuator arm assembly of said disk drive; and

moving said first head of said disk drive relative to said first disk of said disk drive during said moving said push-pin assembly step, wherein a servo writing operation comprises said positioning step, said moving said push-pin assembly step, and said moving said first head step.

54. (previously presented) A method, as claimed in Claim 53, wherein said protrusion interfaces with an end of said vibration damper, and is free from contact with said body.

55. (previously presented) A method, as claimed in Claim 53, wherein said protrusion comprises means for preventing contact between said contact head and said body.

56-58. (cancelled)

59. (previously presented) A method for making a disk drive, wherein said disk drive comprises a first disk and a first head, wherein said method comprises the steps of:

positioning a push-pin assembly of a servo writer relative to said disk drive, wherein said push-pin assembly of said servo writer comprises:

(a) a contact pin comprising a shaft and a contact head, wherein said contact head comprises an actuator arm facing surface engageable with a disk drive actuator arm assembly of said disk drive;

(b) a body comprising a contact pin receptacle, wherein at least a portion of said shaft of

said contact pin is disposed in said contact pin receptacle such that said body is disposed about a perimeter of said at least a portion of said shaft of said contact pin, and wherein said contact head is disposed beyond an end of said body; and

(c) a vibration damper disposed between said shaft of said contact pin and said body, wherein said vibration damper comprises a means for maintaining said contact pin in a set position along a longitudinal extent of said shaft of said contact pin and relative to said body;

moving said push-pin assembly of said servo writer relative to said first disk of said disk drive and while said actuator arm facing surface of said push-pin assembly of said servo writer is engaged with said disk drive actuator arm assembly of said disk drive; and

moving said first head of said disk drive relative to said first disk of said disk drive during said moving said push-pin assembly step, wherein a servo writing operation comprises said positioning step, said moving said push-pin assembly step, and said moving said first head step.

60-68. (cancelled)